

CLAIMS

1. A communication unit comprising:

a ground layer section which is a sheet-like conductive material;

5 a power-source layer section which is a sheet-like conductive material laid out opposite to said ground layer section, and whose electric potential to said ground layer section becomes a predetermined reference electric potential;

a plurality of conductive layer sections which are sheet-like conductive materials laid out between said ground layer section and said power-source layer section;

10 a plurality of pull resistor sections which couple said power-source layer section and said plurality of conductive layer sections, respectively; and

a plurality of communication element sections which couple adjacent ones of said plurality of conductive layer sections with each other,

15 wherein each of said plurality of communication element sections changes an electric potential of one of said conductive layer sections coupled by said communication element section with respect to said ground layer section in accordance with information to be transmitted, and acquires said transmitted information by detecting a change in electric potential of an other one of said conductive layer sections coupled by said communication element section with respect to said ground layer section.

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2. A communication unit comprising:

a ground layer section which is a sheet-like conductive material;

25 a power-source layer section which is a sheet-like conductive material laid out opposite to said ground layer section, and whose electric potential to said ground layer section becomes a predetermined reference electric potential;

a conductive layer section which is a sheet-like conductive material laid out between said ground layer section and said power-source layer section;

a pull resistor section which couples said power-source layer section and said conductive layer section;

a first communication element section which changes an electric potential of said conductive layer section to said ground layer section in accordance with information to be transmitted; and

5 a second communication element section which acquires said transmitted information by detecting a change in the electric potential of said conductive layer section to said ground layer section.

3. The communication unit according to claim 2,

10 wherein said first communication element section lets a current to flow between said first communication element section and said ground layer section to change the electric potential of said first conductive layer section to said ground layer section, and

said second communication element section compares an electric potential of said second communication element section to said ground layer section with said predetermined reference
15 electric potential, and detects a change in electric potential.

4. The communication unit according to claim 3,

wherein said first communication element section and said second communication element section are operated with a potential difference between said power-source layer section and said
20 ground layer section as power.

5. The communication unit according to claim 3,

wherein said first communication element section and said second communication element section are operated with a potential difference between said signal layer section and said ground
25 layer section as power.

6. The communication unit according to claim 3,

wherein said conductive layer section has an approximately square shape, and
said first communication element section and said second communication element section
are respectively laid out at centers of different sides of the approximate square of said conductive
layer section.

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7. The communication unit according to claim 1,
wherein said plurality of conductive layer sections are laid out in such a manner as to
sandwich said power-source layer section with said ground layer section or sandwich said ground
layer section with said power-source layer section instead of being laid out between said ground
layer section and said power-source layer section.

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8. The communication unit according to claim 2,
wherein said plurality of conductive layer sections are laid out in such a manner as to
sandwich said power-source layer section with said ground layer section or sandwich said ground
layer section with said power-source layer section instead of being laid out between said ground
layer section and said power-source layer section.

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9. The communication unit according to claim 8,
wherein said first communication element section lets a current to flow between said first
communication element section and said ground layer section to change the electric potential of
said first conductive layer section to said ground layer section, and

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said second communication element section compares an electric potential of said second
communication element section to said ground layer section with said predetermined reference
electric potential, and detects a change in electric potential.

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10. The communication unit according to claim 9,
wherein said first communication element section and said second communication element

section are operated with a potential difference between said power-source layer section and said ground layer section as power.

11. The communication unit according to claim 9,

5 wherein said first communication element section and said second communication element section are operated with a potential difference between said signal layer section and said ground layer section as power.

12. The communication unit according to claim 9,

10 wherein said conductive layer section has an approximately square shape, and said first communication element section and said second communication element section are respectively laid out at centers of different sides of the approximate square of said conductive layer section.